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Remarks

Claims 1-7, 28, and 31-39 are currently pending in the above-captioned matter. By this amendment, claims 7, 33 and 34 have been cancelled without prejudice. The independent claims have been amended and new claims 40 and 41 have been added; support for the amendments is found at pages 5, 8, 14 and 18 of the original specification. After entry of this amendment, claims 1-6, 28, and 31, 32 and 35-41 are pending. Remarks made herein are based on the claims as amended hereby.

35 U.S.C. §112 Rejections

Claims 1-7, 28, 31-35, and 37-39 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner has stated that "the Table in page 8 does not disclose any (meth)acrylate compound; the table only disclose acrylate compounds. Therefore, the concentration teachings of acrylate compounds as taught in the Table does not adequately provide the support of the concentration of the (meth)acrylate compounds as claimed." Official Action dated June 9, 2009, page 3, line 8-11. Claims 7, 33 and 34 are cancelled and claim 28 has been amended thereby obviating this rejection; the rejection is traversed with respect to the remaining claims.

The rejection is based on two erroneous conclusions: 1) that "(meth)acrylate" as used by Applicants does not include "acrylate", and 2) that the concentrations from the Examples, using acrylates, cannot be used in claims directed to "(meth)acrylates".

Regarding 1), arguments and evidence submitted in by Applicants on October 9, 2009 relating to the meaning of "(meth)acrylate" are hereby incorporated by reference. Furthermore, attached hereto is a 37 CFR § 1.132 declaration of inventor Holger Endres, confirming that "(meth)acrylates" as used in the specification includes both "acrylates" and "methacrylates", Holger Declaration Paragraph 4.

The declaration is supported by Exh. A, a brochure from Rahn AG, a maker of acrylates and methacrylates. In the brochure, under the heading "Urethane (Meth)acrylates" is a list of urethane acrylate products, e.g. "Aliphatic UA", and urethane methacrylate products, e.g. "Aliphatic UMA", which shows that those of skill in the art use the term "(meth)acrylates" to mean "acrylates" and "methacrylates". This brochure also uses "Epoxy (Meth)acrylates" as a heading for a similar listing. See Holger Declaration Paragraph 5. The facts show that those of skill in

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the art would understand "(meth)acrylates" to represent "acrylates" and "methacrylates".

Regarding 2), the Examiner has further asserted that "Even assuming that "(meth)acrylates" can represents[sic] "methacrylate" and "acrylates", applicants must recognize that the support of the concentration of a species does not support the concentration of its genus." *Id.* page 11, lines 5-7. This assertion of the Examiner was made without citation to law or fact. This rejection is not supported and must be withdrawn.

Firstly, the use of the term "(meth)acrylates" to represent "acrylates" and "methacrylates" generates a genus having only two species. This is a relatively small number and Applicants submit that the description provides a representative number of species by actual reduction to practice and description of identifying characteristics.

The MPEP Section 2163 states under the heading "For each claim drawn to a genus": The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice (see i)(A), above), reduction to drawings (see i)(B), above), or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus (see i)(C), above). See *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406.

Both members of the "genus" are known by those of skill in the art to have similar properties, see Holger Declaration Paragraph 6. Nine examples of actual reductions to practice are described, in addition to the description in the specification of both species. One of ordinary skill would recognize that Applicants were in possession of the claimed invention based on the combination of the Examples and description in the specification.

With respect to changing numerical range limitations, MPEP Section 2163.05 requires that the Examiner's analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure. In the decision in *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), the ranges described in the original specification included a range of "25%- 60%" and specific examples of "36%" and "50%." In that case, a limitation to "between 35% and 60%" was held to meet the description requirement. The range limitations complained of are supported by the Examples as previously discussed in the Response filed October 9, 2009, page 10-12, incorporated by reference.

The rejection of claims 1-7, 28, 31-35, and 37-39 under 35 U.S.C. §112, first paragraph, should be withdrawn.

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35 U.S.C. §102 Rejections

Claims 1-3 and 5 are rejected under 35 U.S.C. §102(b) as being anticipated by Shustack U.S. 5,128,391 ("the '391 reference") for the reasons set forth from paragraph 6 of non-final office action of November 1, 2007. This rejection is hereby traversed with respect to the claims as amended hereby. Arguments made regarding the amount of low molecular weight (meth)acrylate is selected from difunctional, trifunctional and polyfunctional (meth)acrylate compounds from the appeal brief filed October 9, 1008 are incorporated herein by reference.

Independent claim 1 and the claims depending therefrom also include the features: at least one of nanoparticulate aluminum oxide or hydrophobic silica is present in highly dispersed form in the coating material as said fillers and said components are selected such that the coating material has a viscosity of less than 1000 mPas within a temperature range of 0 to 90°C. This combination of particles is neither taught nor suggested by the '391 patent.

35 U.S.C. §102(b) requires that the invention be described in a printed publication. Applicants submit that as amended the '391 patent does not describe the invention of claim 1 and the claims depending therefrom and the rejection should be withdrawn.

35 U.S.C. §103 Rejections

Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over the '391 reference, in view of Shustack U.S. 5,128,387 ("the '387 reference") and claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over the '391 reference, in view of Razavi U.S. 5,629,365 ("the '365 reference") for the reasons set forth in paragraph 8 and paragraph 9, respectively, of the office action of November 1, 2007. These rejections are hereby traversed.

Claim 4 and claim 6 depend from independent claim 1, which as amended recites features that are neither taught nor suggested by the '391, the '387 or the '365 references, alone or in combination. Addition of the '387 and/or '365 teachings does not remedy the deficiencies of the '391 patent as discussed regarding the rejection of claim 1 above, incorporated and relied upon herein by reference.

The rejections under 35 U.S.C. §103(a) of claim 4 as being unpatentable over the '391 reference, in view of "the '387 reference and of claim 6 as being unpatentable over the '391 reference, in view of "the '365 reference should be withdrawn

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over the '391 reference, in view of Nagasawa et al. U.S. 4,205,018 ("the '018 reference") for the reasons set

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forth from paragraph 10 of non-final office action of November 1, 2007. This claim has been cancelled thereby rendering moot this rejection.

Claims 28, 31-35, and 37-39 are rejected under 35 U.S.C. §103(a) as being unpatentable over the '391 reference for the reasons set forth at paragraph 11 of non-final office action of November 1, 2007. Claims 33 and 34 have been cancelled rendering their rejection moot. This rejection is hereby traversed with respect to the remaining claims as amended hereby.

Independent claims 28, 36 and 39 have been amended and the combination of features claimed would not have been obvious to one of ordinary skill in the art at the time the invention was made. Specifically, the claims have been amended to recite the presence of at least one of nanoparticulate aluminum oxide or hydrophobic silica in highly dispersed form in the coating material and said components are selected such that the coating material has a viscosity of less than 1000 mPas within a temperature range of 0 to 90°C. Independent claim 1 has also been amended to recite similar features.

In order to support a rejection under 35 U.S.C. §103, the Office must establish that there was some suggestion, either in the reference or in the relevant art, of how to modify what is disclosed to arrive at the claimed invention. In addition, "[s]omething in the prior art as a whole must suggest the desirability, and, thus, the obviousness, of making" the modification to the art suggested by the Examiner. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 U.S.P.Q. 2d (BNA) 1434, 1438 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988). That is, although the Office may suggest that the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the *desirability* of such modification. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q.2d (BNA) 1397, 1398 (Fed. Cir. 1989).

In a previous rejection of claim 7, which recited silica and aluminum oxide, the examiner asserted that a combination of the '391 reference with the '018 reference would render obvious that claim. With respect to the currently pending claims, one of ordinary skill in the art at the time the invention was made would not have been motivated to combine the '391 and/or '387 patents with the teachings of the '018 reference.

The '018 reference discloses a radiation curable resin composition which does not contain an acid group, '018 reference, Col. 1, lines 1-10. The teaching relied upon by the Patent Office to support adding silica to the '391 reference is as follows:

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In addition, depending on use of the composition, a finely divided powder of silica may be used as a thixotropic agent and a fluorine type surface active agent such as potassium perfluorocaprates can be used as a levelling agent. '018 reference, Col. 12, lines 3-7, emphasis added.

This suggested use of silica is to thicken the composition of the '018 reference. One of skill in the art seeking to achieve Applicants' low viscosity coating would not be motivated to add thickeners. In Nagasawa, silica was used as thixotropic agent which teaches away from the present invention, as thixotropic agents are undesirable since the claimed invention must have a viscosity below 1000 mPas, see Holger Declaration Paragraph 6. With the viscosity limitation in mind, one of ordinary skill in the art would not consider to add the thixotropic agents of the '018 reference to the product of the '391 patent, as an undue increase of viscosity would have been expected, see Holger Declaration Paragraph 6. Including silica in the required low-viscosity formulation despite the known thixotropic property requires an inventive step acting against common knowledge. Based on the foregoing, Applicants submit that claims 1-6, 28, and 31, 32 and 35-39 are patentable over the art of record.

Furthermore, at the time the invention was made, there was a significant unmet need for durable coatings that combined fingerprint resistance and scratch resistance to scrubbing, see Holger Declaration Paragraph 7. Neither of these problems is considered in the '391 or '387 references, which although containing generalized teachings, are focused on coating aluminum cans which can be later necked and pasteurized, '391, col. 1, lines 14-45 and col. 2, lines 34-43.

Applicants found that the addition of the claimed nanoparticulate aluminum oxide or hydrophobic silica in highly dispersed form in the coating material provided improvements in durability testing as shown in Table 2 of the specification and Table 4, see Holger Declaration Paragraph 9-12.

With regard to claim 28, which requires alkoxysilane, it was also unexpectedly found that the presence of modified di- or tri-alkoxysilanes improved scratch resistance, see Holger Declaration Paragraph 13. Comparative Pencil hardness VB1 (no silica, no silane) < VB2 (no silica, silane present) < B1 and B2 (silica and silane present). One of ordinary skill in the art would not have expected the alkoxysilane, used to promote adhesion between the metallic substrate and the resin, '391 Col. 8, lines 61-65, to increase hardness of the surface of the coating.

The foregoing evidence shows that independent claims 1, 28, 36 and 39, and the claims

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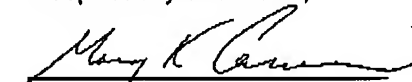
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depending therefrom are patentable over the cited references and a notice to that effect is respectfully requested.

Conclusion

Applicants request reconsideration in view of the amendments, Declaration evidence and remarks contained herein. Should the Examiner have any questions regarding this paper, please contact the undersigned.

Respectfully submitted,



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